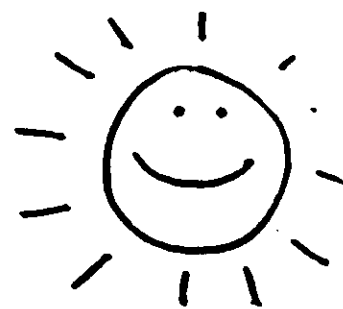


Water Cycle at Work

Grades 2-3



Overview

The students will be involved in play acting the water cycle, making their own mini-water cycle and constructing a water cycle hexaflexagon.

Objective

- To help students have a better understanding of the water cycle.

Materials

For the presenter:

- One set of 7 Water Cycle role playing cards from activity packet (may be colored ahead of time)
- paper towels for spills
- Three Words cards: **Evaporation, Condensation, and Precipitation**

For each student:

- One - 8 oz plastic drinking cup
- 1 zip lock sandwich bag
- 1 piece of masking tape to label bags
- water
- cup to measure about 1 oz of water
- 1 hexaflexagon water cycle sheet-available from BPA Public Information Center
- crayons, scissors and glue for hexaflexagon

Getting Ready

Activity 1

Separate the 7 role playing cards [coloring the cards makes them more interesting and fun for the students.] Cut the three word cards into strips. Make sure you have enough space for the role playing activity. You will have 10 children up in front of the class with you.



Activity 2

For this activity, have enough cups, ziplock bags and pieces of masking tape ready for all the students. Take each ziplock bag and cut off one corner so the bottom of the paper cup will fit snugly through it. The bag will be used as a top to keep in the water. Fill a container with enough water so each student will be able to have about 1 oz. of water. Make sure you have the water, 1 oz measuring container and paper towels in a space with easy access by students. Cut out and put together a sample of the hexaflexagon water cycle puzzle. Put student copies in a place with easy access by students.

Procedures

Activity 1: Play Acting the Water Cycle

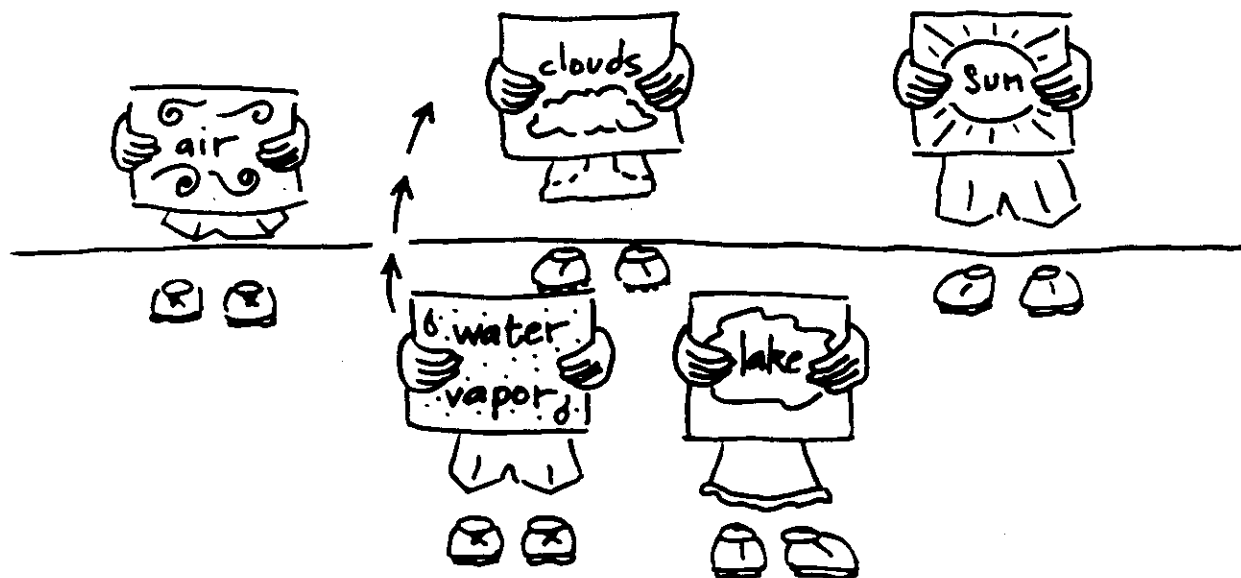
Use the questions below to spark the students' interest and get them thinking. Tell the students that today they will be doing a short play and an experiment about the water cycle.

Questions

"What is a water cycle? Where does rain come from? What happens to rain after it falls? Do puddles really disappear? Could we have a water cycle without the sun? Why is the sun important?"

After a discussion of the water cycle ask students for volunteers to play the parts of the sun, clouds, rain, snow, lake, air (atmosphere) and water vapor. Choose one student for each part and give them the role playing card that goes with their role. Start by placing the the student sun, student lake and the student atmosphere in the front of room. (see diagram on page 2). Begin by telling the children that one day it was very hot outside. The sun had been shining on the lake for hours. Ask the students: "What do you think is starting to happen to the water in the lake? (*Evaporating, the water is turning into water vapor*) Where is the water vapor going?" At this point, have the student water vapor come up and stand by the lake. Have the student water vapor slowly move past the air-atmosphere and towards the back of the room in front and to the left of the sun. Ask the students: "What will happen to this water vapor when it gets up high in the sky? What makes water vapor turn into a cloud? (*Water vapor condenses when it is cooled to the saturation point.*) At this point have the student cloud come out and stand in front of the water vapor. Ask the students: "What will happen when this cloud fills up with water droplets?" (*As a droplet falls through a cloud, it combines with other droplets to produce rain, snow, hail or sleet.*) At this point, have the rain and snow stand behind the cloud and slowly walk toward the lake; when they reach the lake have them kneel down behind the student lake. Tell the students that the water returns to the lake. Ask the students: "Could someone show us how the water cycle continues? (*with the lake*) What happens next? (*The sun shines on the water causing evaporation.*) What does the word **Evaporation** mean?" Have a volunteer bring up the **Evaporation** word card and stand by the lake. Ask the students: "What happens after evaporation?" (*The water droplets form clouds.*)

“Do you know what we call it when water vapor turns into water droplets and forms a cloud?”
(Condensation) Have a volunteer bring up the Condensation word card and stand by the cloud.
 Ask the students: “Once the cloud fills with water droplets, what will happen next? **(Rain or snow will fall.)** What is another name for rain or snow?” **(Precipitation)** Have a volunteer bring up the **Precipitation** word card and stand by the rain and snow students. Ask the students to return to their desk and give them a hand for a job well done.



Activity 2: Making a Mini-Water Cycle

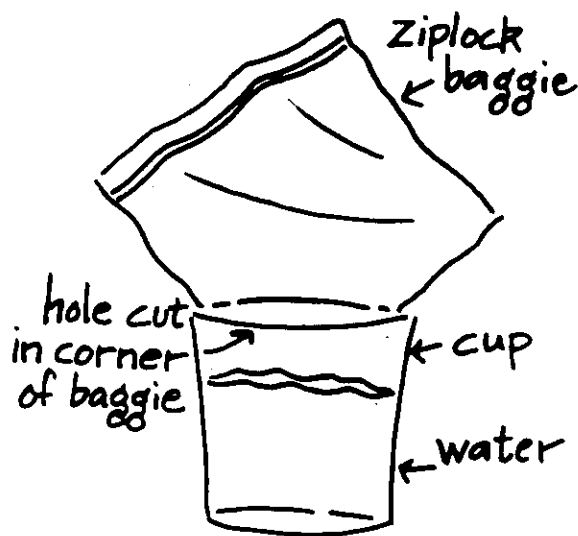
Now that the children have an understanding of how the water cycle works, each one of them will make their own water cycle. Before handing out any materials, demonstrate for the students the steps in making a mini-water cycle.

- Step 1:** Write your name on a piece of tape and put it on the zip lock bag.
- Step 2:** Put the cup into the bag and push it through the hole in the bottom. The bag should fit snug around the top of the cup (see diagram below).
- Step 3:** Pour 1 oz. of water into the cup. Tell students when they are ready for water, they may come up and measure out 1 oz. of water.
- Step 4:** Carefully zip the bag shut without spilling the water.
- Step 5:** Put the mini-water cycle on your desk so you will be able to observe what happens.
- Step 6:** When you are finished, pick up a Water Cycle hexaflexgon, and you may begin coloring it until everyone is ready to put them together.

After the demonstration is completed, hand out 1 bag, 1 cup, and a piece of masking tape to each student.

Discussion

As the students make their mini-water cycles, move around the classroom and ask the students what they predict will happen to the water in their cups. "How long do you think it will take? What will happen to the water droplets that form on the bag?"



Activity 3: Water Cycle Hexaflexagon

Pass out a hexaflexagon to those students who did not get one. Demonstrate the correct procedure for putting the hexaflexagon together. This activity will be a good review for the students. **It can be used as a follow up activity on another day.**

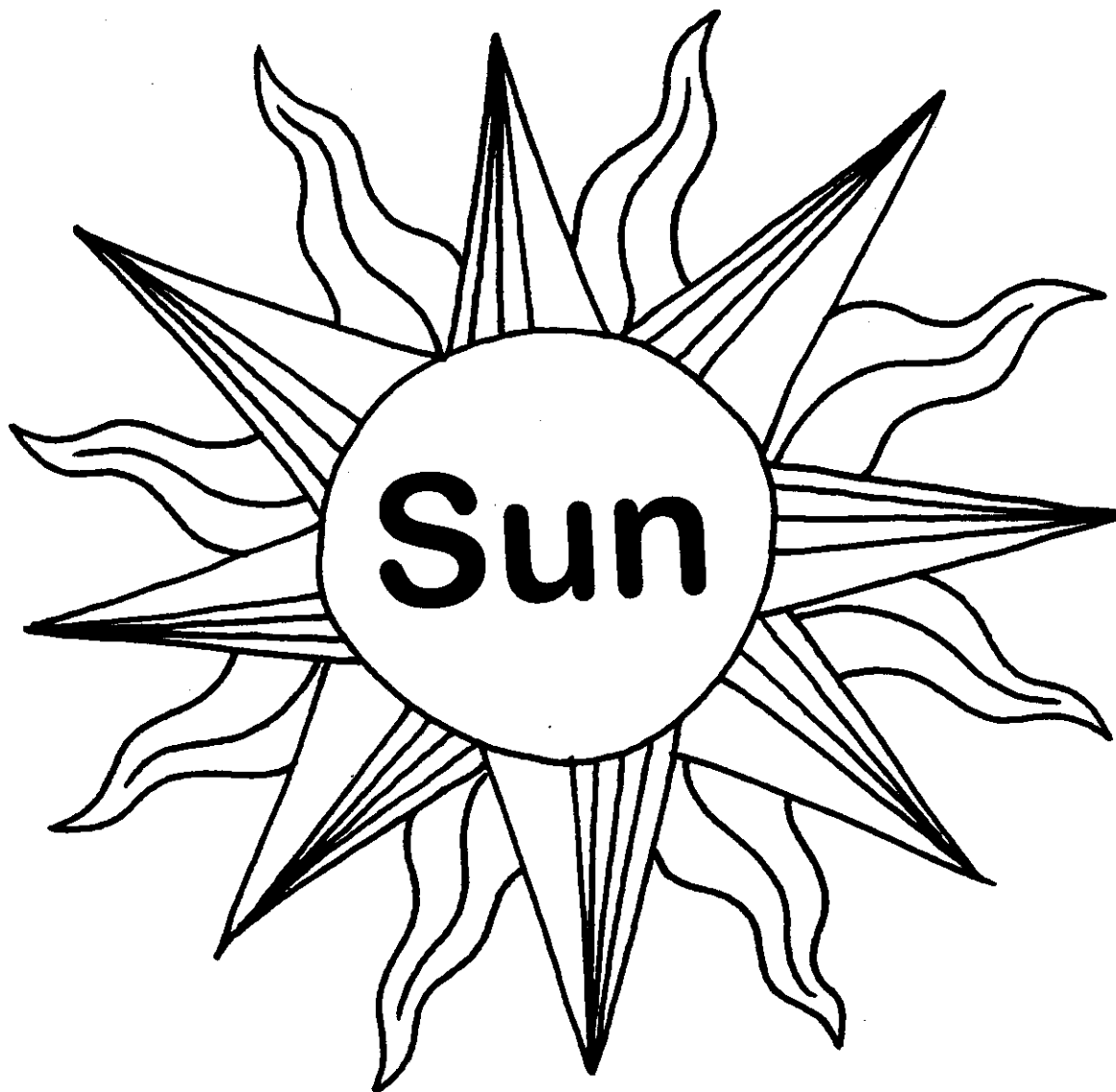
Closure

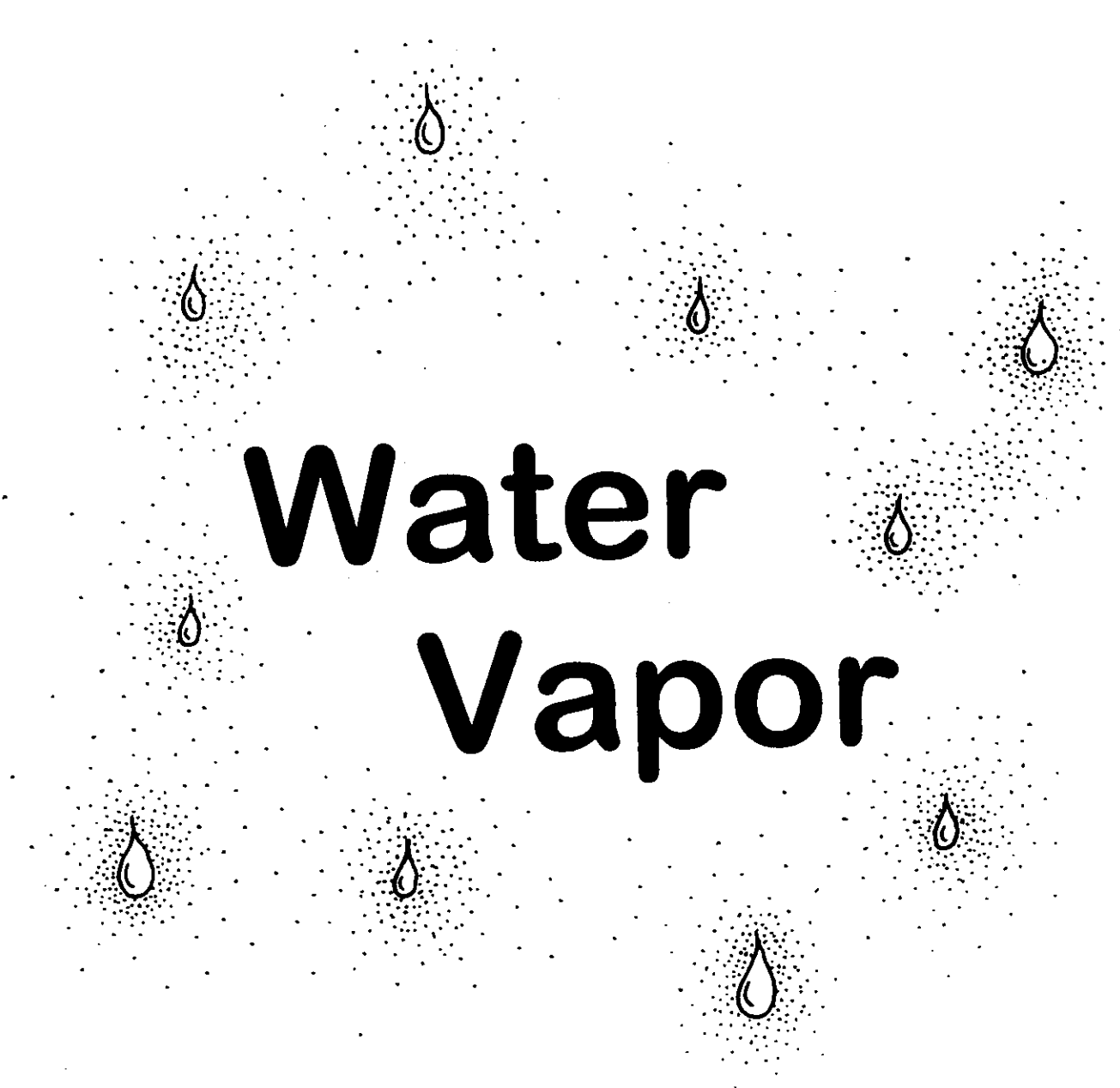
Hold up the *Evaporation*, *Condensation* and *Precipitation* word cards one at a time; tell the students to whisper to their neighbor what the words means. Ask one student to give the answer out loud.

Clean Up

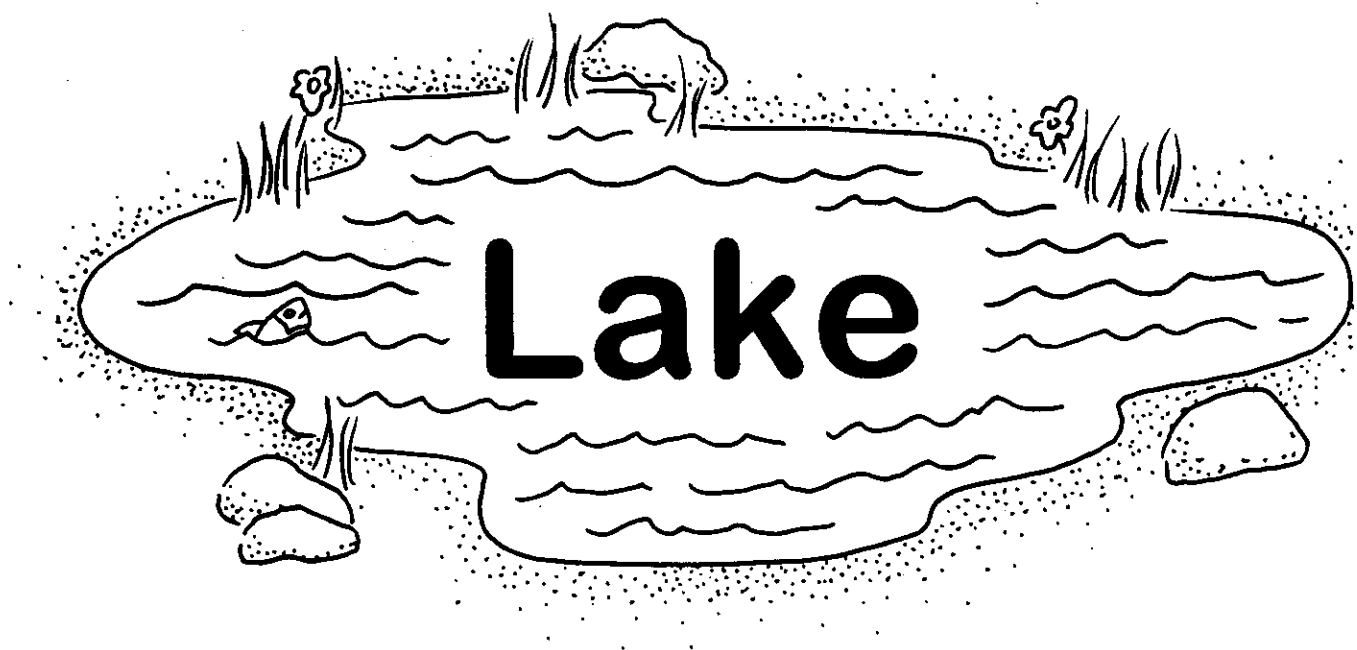
The students will each be responsible to wipe up any water that may have spilled during Activity 2 and pick up paper scraps from Activity 3.

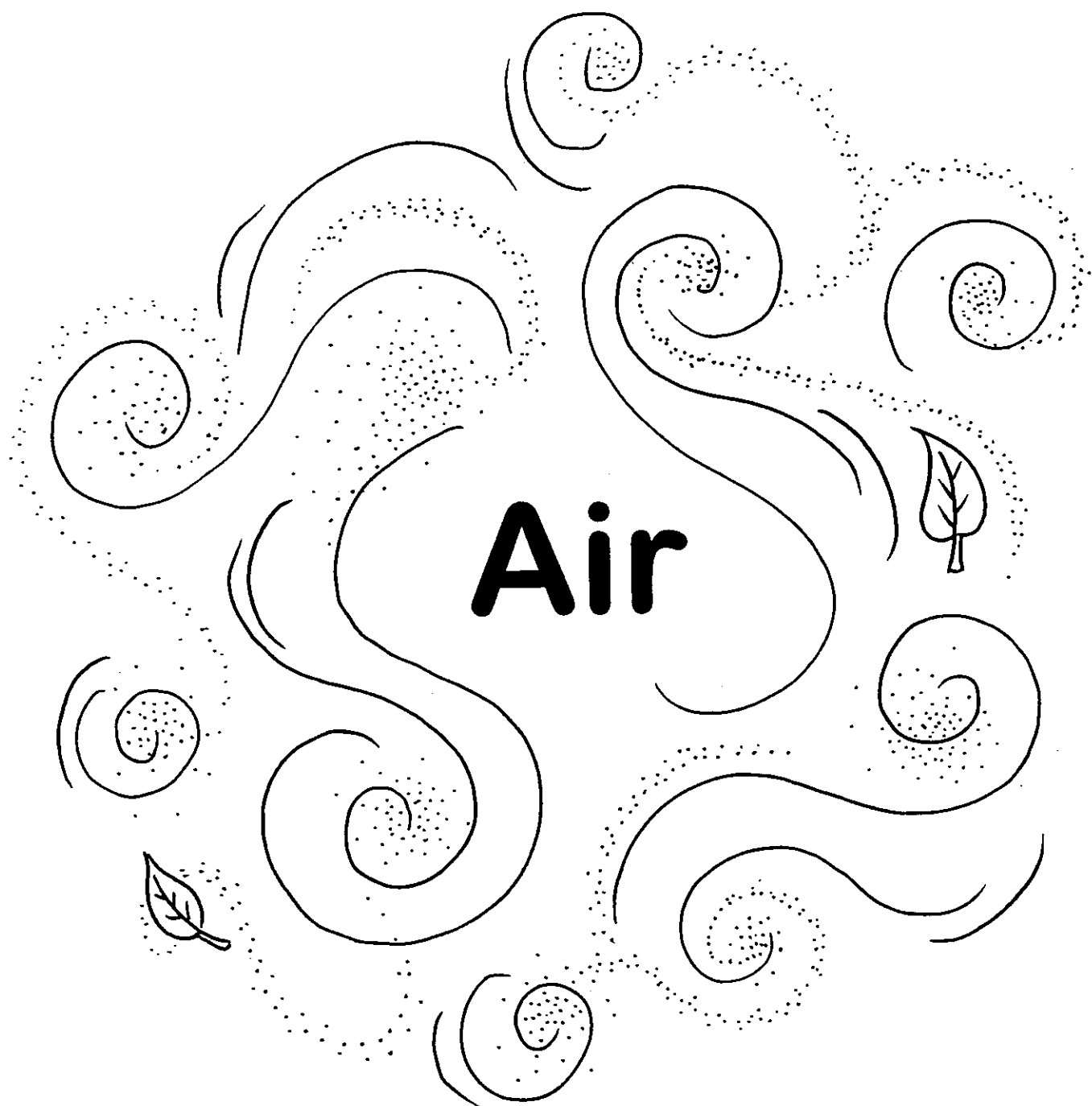


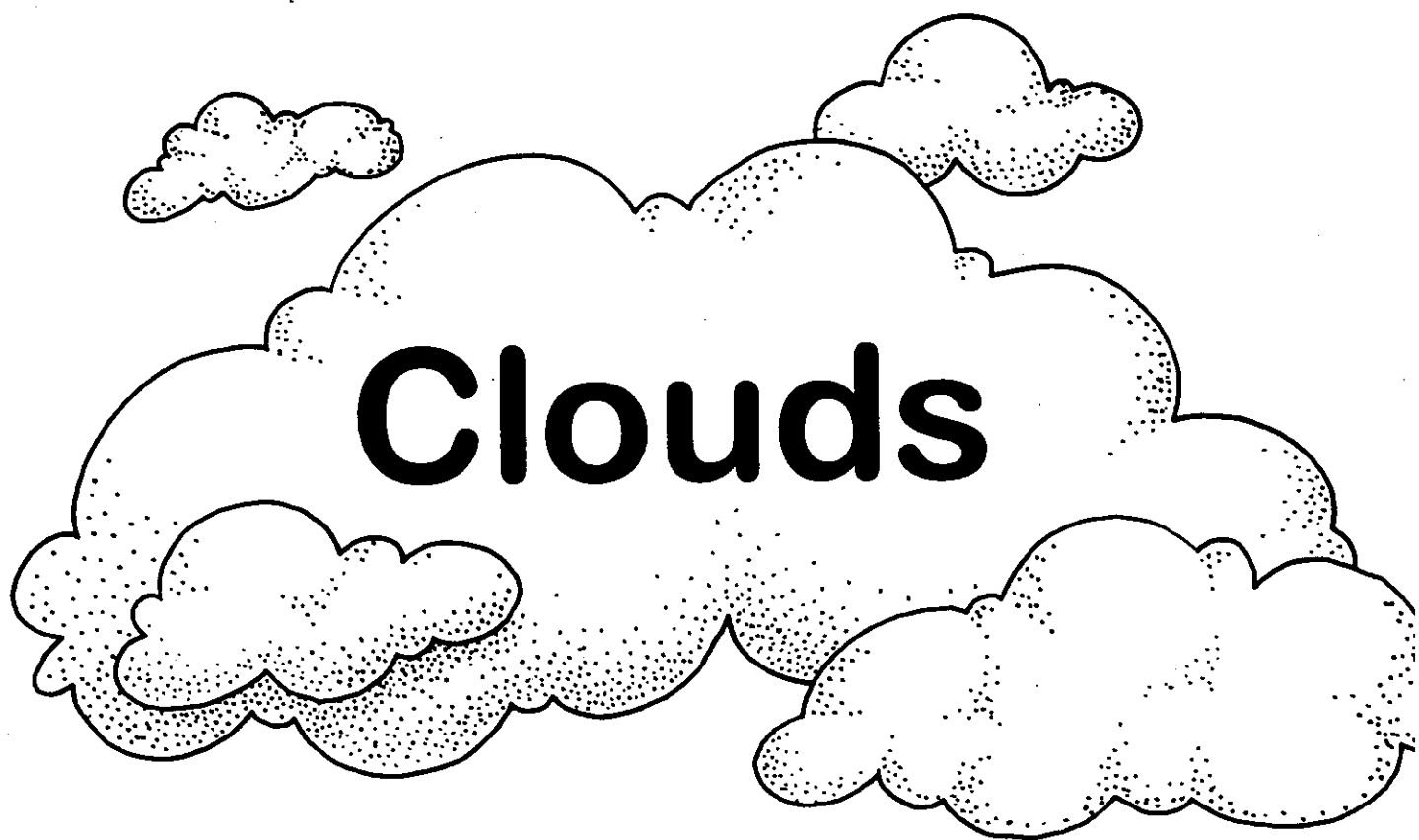


The background of the page is decorated with several stylized water droplets and clouds of vapor. Each droplet is a simple outline with a small stem, and each cloud is a cluster of small dots. These elements are scattered around the central text.

Water Vapor









Evaporation

Condensation

Precipitation